AMENDMENTS TO THE DRAWINGS

In the Office Action at page 2, item 1, the Examiner objected to the drawings by requiring Figures 4 and 5 to be designated by a "PRIOR ART" legend.

FIG. 5 is amended to include the "PRIOR ART" legend and one drawing replacement sheet of FIG. 5 is submitted herewith. Withdrawal of the objection to FIG. 5 is respectfully requested.

Regarding the objection to FIG. 4, the objection is hereby traversed as discussed in the remarks section below. Withdrawal of the objection to FIG. 4 is respectfully requested.

REMARKS

STATUS OF THE CLAIMS

Claims 1-36 are pending in the application.

Claims 1-6, 13-18, and 25-30 are rejected under 35 USC 102(b) as being anticipated by Applicant's admitted prior art (AAPA, Fig. 4-7, Background of the Invention & Description of the Related Art).

Claims 7-12, 19-24, 31, 31, 33, 34, 35, and 36 are rejected under 35 USC 103(a) as being unpatentable over AAPA and further in view of Takase Patent Pub Date: 2001/0024448.

According to the foregoing the claims are amended, and, thus, the pending claims remain for reconsideration, which is respectfully requested.

No new matter has been added.

IN THE DRAWINGS

In the Office Action at page 2, item 1, the Examiner objected to the drawings by requiring Figures 4 and 5 to be designated by a "PRIOR ART" legend.

FIG. 5 is amended to include the "PRIOR ART" legend and one drawing replacement sheet of FIG. 5 is submitted herewith. Withdrawal of the objection to FIG. 5 is respectfully requested.

Regarding the objection to FIG. 4, the objection is hereby traversed as follows:

FIG. 4 is a block diagram showing the structure of both a known storage apparatus (storage controlling apparatus) and a storage apparatus (storage controlling apparatus) according to the embodiment of this invention, as described in "Brief Description of the Drawings" in the present application page 23, so that FIG. 4 shows a whole structure common to both the known technique and the invention of this application. Even with the whole structure of the storage apparatus having the same appearance, each constitutional element of the storage apparatus according to the claimed present invention internally functions differently from the known constitutional elements of the storage apparatus. Accordingly, in FIG. 4, a constitutional element having a different internal function is denoted by a different reference character (Among

the constitutional elements according to the invention of the application, constitutional elements having internal functions differing from those of constitutional elements of the known technique are denoted by reference characters to which "A" is attached). According to the foregoing, the specification is amended for clarity and no new matter has been added. Accordingly, FIG. 4 does not only describe the prior art, and, thus, withdrawal of the objection to FIG. 4 is respectfully requested.

REJECTIONS

Claims 1-6, 13-18, 25-30 of this application are rejected under 35 U.S.C. 102(b) as being anticipated by the known technique described in "Description of the Related Art" of "Background of the Invention" in the specification and shown in FIGS. 5-7 of this application. The remaining claims 7-12, 19-24 and 31-36 are rejected under 35 USC 103(a) as being unpatentable over the known technique described in the specification of this application and in view of Takase [US 2001/0024448 (which corresponds to Japanese Patent Application Laid-Open Publication No. 2001-273275)] because allegedly the invention would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter of the invention pertains.

The anticipatory rejection under 35 U.S.C. 102(b) of the present invention as recited in claims 1-6, 13-18 and 25-30 over AAPA is hereby traversed as follows: The Examiner states in the office action that constitutional elements of claims 1-6, 13-18 and 25-30 of this application are all described in "Related Art" (AAPA) in the specification of this application. Although there are some constitutional elements common to the known technique and the claimed present invention, the Applicants respectfully disagree with the Examiner's finding, as follows.

As described in page 8, line 22 to page 9, line 12 in the specification of this application, the known technique of the host/disk interfaces 10, 20 set both a data transfer descriptor containing transfer information required to transfer data to the second module (to the management module 30), and a data transfer confirmation descriptor containing confirmation code reading information required to read the confirmation code from the bridge module to the first module (interface modules 10, 20) when data transfer is initiated (refer to step S11 in FIG. 6).

16

In contrast to AAPA, the claimed present invention's host/disk interface modules 10A, 20A set only the data transfer descriptor containing transfer information required to transfer data to the second module (to the management module 30) and a data transfer confirmation flag before data transfer is initiated (refer to step S51 in FIG. 2). The data transfer confirmation descriptor containing the confirmation code reading information required to read the confirmation code from the bridge module to the first module (interface module 10A, 20A) is automatically generated only when the data transfer confirmation flag in the data transfer descriptor is "ON."

More concretely, the claimed present invention differs from AAPA, because the contents of the data transfer descriptor are different (that is, the data transfer descriptor according to the claimed present invention contains "*a data transfer confirmation flag*"), and because the generation and setting timing of the data transfer descriptor differs from the AAPA generation and setting timing of the data transfer confirmation descriptor. According to the claimed present invention, by setting the data transfer confirmation flag in the data transfer descriptor before the data transfer is initiated, it becomes possible to check and confirm "ON" or "OFF" of the data transfer confirmation flag after the data transfer. When the flag is set "ON," the data transfer confirmation descriptor is automatically generated based upon the transfer information in the data transfer descriptor.

According to the foregoing, the independent claims 1, 13 and 25 are amended to more clarify the feature of the data transfer confirmation flag contained in the data transfer descriptor set by the descriptor setting means of the host and/or disk interface module 10A, 20A, and to more clarify that the generation and setting timing of the data transfer descriptor differs from that of the AAPA data transfer confirmation descriptor. AAPA cannot anticipate or render obvious the claimed present invention, because AAPA fails to disclose, either expressly or inherently (by necessarily providing) or suggesting to one skilled in art to be modified, to provide the claimed present invention's host and/or disk interface modules 20A, 10A that comprise "a descriptor setting means for, *before data transfer is initiated, setting a data transfer descriptor containing transfer information required for data transfer to said second module (management module 30) and a data transfer confirmation flag set to "ON" when necessary to confirm the data transfer after the data transfer*," and "a descriptor generating means for, *after the data transfer to said second module (management module 30), automatically generating, when said data transfer confirmation flag is "ON", a data*

transfer confirmation descriptor containing confirmation code reading information, which is required to read ~~out~~ said confirmation code from said bridge module to said first module, ~~on the basis of~~based upon said transfer information in said data transfer descriptor set by said descriptor setting means." For example, the present application page 28, line 5+, page 30, line 25+ (page 31, line 19 to page 32, line 1) support the claim amendments. The claimed present invention provides a new effect of omitting a CPU 11A (FIG. 1) process of descriptor setting for reading a confirmation code, which reduces CPU load, decreases the number of PCI accesses, and improves I/O performance (page 42, line 8+). In other words, the claimed present invention provides a benefit of omitting a CPU 11A descriptor setting process for reading a confirmation code in the host/disk interface module 10A, 20A, since the descriptor generator 14A (141) automatically sets the descriptor for reading the confirmation code based upon a flag included in the descriptor setting for the data transfer.

As stated above, since claims 1-6, 13-18 and 25-30 cannot be anticipated by AAPA, the dependent claims 7-12, 19-24 and 31-36 recite patentably distinguishing features of their own or are at least patntably distinguishing due to their dependencies from the independent claims.

In view of the remarks and claim amendments, withdrawal of the rejection of pending claims and allowance of pending claims is respectfully requested.
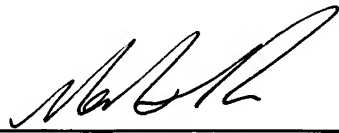
CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

Respectfully submitted,
STAAS & HALSEY LLP

Date: ___July 20, 2006___   By: _____

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